



8. Apply input power to the supply by setting POWER switch to the on ("1") position.

"NC" OPTION USERS SKIP STEP 9

9. Depress HIGH VOLTAGE ON push-button. The HIGH VOLTAGE ON indicator should illuminate.
10. Rotate KILOVOLT CONTROL (or increase external V-PROGRAM signal) until kilovoltmeter indicates desired output voltage.
11. Depress HIGH VOLTAGE OFF push-button to disable high voltage output.
12. To shut down supply, set POWER SWITCH to the off ("0") position.

WARNING!

DO NOT HANDLE THE LOAD OR EXPOSED HIGH VOLTAGE TERMINATIONS OR ATTEMPT TO MAKE OR REMOVE ANY CONNECTIONS TO THE SUPPLY UNTIL THE LOAD AND/OR SUPPLY HAS BEEN DISCHARGED (GROUNDED). AN UNLOADED SUPPLY MAY TAKE UP TO 15 SECONDS TO FULLY DISCHARGE.

POLARITY REVERSAL

REVERSIBLE POLARITY MODELS > 6kV

For reversible polarity models greater than 6kV, the power supply has been shipped with two high voltage assemblies; one positive and one negative. One assembly is mounted in the supply and the other one is shipped separately.

A label imprinted with the assemblies' part number is affixed to each HV board. This part number can be used to determine the polarity of the HV assembly. The part number will begin with "AHV*KL" (where "*" is any single-digit number). The tenth digit of the part number is either an "N" or a "P", corresponding to negative or positive polarity, respectively. A typical part number for a positive HV assembly would be "AHV1KL030P100", and its counterpart would be "AHV1KL030N100".

To reverse the polarity of the power supply, it is necessary to interchange the high voltage assemblies as follows:



WARNING!: To avoid the risk of shock and personal injury, Wait at least 2 minutes after disconnecting the AC mains power before removing any covers or panels.

1. **BE SURE AC POWER IS DISCONNECTED AND HV IS DISCHARGED!**
2. Refer to the "PARTS PLACEMENT, AM7-KL, TOP" drawing found in SECTION III of this manual.
3. Remove the 13 screws securing the top cover to the supply and remove the cover. Locate the HV assembly, A6. Remove the cover over A6 (by removing the 4 screws attaching it to the plastic barrier).
4. **8-12kV supplies only:** Unplug the electrical connectors from A6-J1, A6-E1, and A6-E2.
15-30kV supplies only: Unplug the electrical connectors from A6-J1, A6-J3, A6-E1, A6-E2, and A6-E3.
5. The following instructions for disconnecting the silicone wires from A6 must be done **very** carefully, otherwise damage to the power supply can occur.

Do not tug on the silicone wires where they enter A5-T1, 2, or 3 or loss of the seal between the wires and the silicone potting material may occur. This could cause an electrical breakdown within the transformer.

Do not nick, cut or otherwise abrade the silicone wires. Doing so will diminish the electrical breakdown resistance of the insulation.

8-12kV Supplies Only: Unplug the electrical connectors from A6-JHV-2, 4, 5, and 6.

15-30kV Supplies Only: Unplug the electrical connectors from A6-JHV-1, 2, 3, 4, 5, and 6.

Carefully pull the wires back through the holes in the plastic barrier (only far enough to provide clearance for the removal of A6, not all the way out of the holes).

6. **8-12kV Supplies Only:** Remove the 2 metal screws and 4 nylon screws holding A6 to the chassis. Remove A6 and replace it with the A6 of opposite



polarity. Re-install the 6 screws (the 2 metal screws are installed in the corners closest to the rear of the supply).

15-30kV Supplies Only: Remove the 4 screws holding A6 to the chassis. Remove A6 and replace it with the A6 of opposite polarity. Re-install the 4 screws.

7. Pull the silicone wires back through the holes in the plastic barrier towards A6. Note that each silicone wire is marked with a number. Plug each numbered wire into its respective connector (wire # 2 plugs into A6-JHV2, etc.). Try to adjust the slack on the silicone wires so that it is evenly distributed between the A6 and A5 side of the plastic barrier.
8. **8-12kV Supplies Only:** Reconnect the electrical connectors to A6-J1, A6-E1, and A6-E2. **WARNING!:** For continued safety, the push lug connections, A6-E1, and A6-E2 must be reinstalled!

15-30kV Supplies Only: Reconnect the electrical connectors to A6-J1, A6-J3, A6-E1, A6-E2, and A6-E3. **WARNING!:** For continued safety, the push lug connections, A6-E1, A6-E2, and A6-E3 must be reinstalled!
9. Replace the cover over A6 as shown in the drawing (use the location of the DANGER HIGH VOLTAGE label as an orientation guide). Reinstall the 4 screws that fasten the cover to the plastic barrier.
10. Reattach the cover to the power supply.

ALL MODELS 6kV OR LESS

A polarity card is provided, internal to the unit, to reverse the output polarity of the supply. If it is desired to determine the present setting of the polarity or to change the polarity, follow this procedure:

WARNING!: To avoid the risk of shock and personal injury, Wait at least 2 minutes after disconnecting the AC mains power before removing any covers or panels.

1. **BE SURE AC POWER IS DISCONNECTED AND HV IS DISCHARGED!**



2. Refer to the "PARTS PLACEMENT, AM7-KL, TOP" drawing found in SECTION III of this manual.
3. Remove the 13 screws holding the top cover to the unit.
4. Locate the polarity card A6-2 plugged into the high voltage board A6-1 and observe that the card is labeled to indicate the installed polarity.
5. If it is desired to change the polarity of the supply, simply unplug the card, flip it over and reinstall carefully.
6. Reattach the cover to the power supply.

REMOTE CONTROL INTERFACE

NOTE: All "Figures" mentioned hereafter can be found on the INTERFACE DIAGRAM located in SECTION III of this manual.

User Interface Connector TB2

GROUND TB2-1

This is the instrumentation ground connection. This terminal should not be used as the main connection to earth ground. Use the main ground terminal, "E1", for that purpose. TB2-1 is normally connected to the adjacent COMMON terminal unless a floating COMMON is desired (see TB2-2). If a floating COMMON is employed, E1 should be used as the load return (see Figure 7).

COMMON (For HV & Interlock Returns) TB2-2

This terminal provides a connection to COMMON for the HV output return and INTERLOCK control signals. A separate connection for program, monitor, and enable signal returns is provided on TB2-12. This separation of COMMON is done to minimize coupling of any noise or voltage drop from the high current power return path into the sensitive control and monitor signal circuits.

Normally, COMMON is maintained at ground potential via a jumper to the GROUND terminal. In this configuration the load return may be connected to either